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915

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PLANT IMMIGRANTS

No. 203 March, 1923

GENERA REPRESENTED IN THIS NUMBER

	Page		Page
Acacia	1859	Hydnocarpus	1862
Acer	1859	Juglans	1863
Aesculus	1859	Ligustrum	1863
Amygdalus	1860	Lilium	1863
Asparagus	1860	Malus	1864, 1868
Brachychiton	1860	Musa	1864
Cassia	1860	Nageia	1864, 1865
Castanea	1860	Oryza	1865
Castanopsis	1861	Pappea	1865
Chaetochloa	1861	Photinia	1866
Chayota	1867	Prunus	1868
Cyrtanthus	1861	Pyrus	1866
Dioscorea	1868	Raphanus	1866
Erythrina	1861	Rosa	1867
Eucalyptus	1862	Rubus	1867
Festuca	1862	Trifolium	1867

Plates

325. Dwarf mume trees as grown in Japan (*Prunus mume*).
326. The mume, or Japanese apricot (*Prunus mume*).

Foreign Seed and Plant Introduction

EXPLANATORY NOTE

This circular is made up principally of notes received from agricultural explorers, foreign collaborators, and correspondents, concerning the more important plants which have been received recently by the Office of Foreign Seed and Plant Introduction. It also contains reports on the behavior of plants which have been introduced in previous years.

Descriptions appearing here are revised and later published in the Inventory of Seeds and Plants Imported,-- the permanent record of plant introductions made by this Office.

Plant Immigrants should be considered merely an ANNOUNCEMENT OF THE ARRIVAL OF PLANT MATERIAL. As a rule all material is propagated before being distributed; this may require several years.

The Annual Catalogue of New Plant Introductions describes briefly the plants available for distribution. Application for seeds or plants listed in Plant Immigrants may be sent at any time, however, and will be filed in the order of their receipt. When material is ready for distribution, these requests will be given first attention; if their number is sufficient to exhaust the available supply of a given species, it will not be included in the Annual Catalogue.

Plant breeders and experimenters who desire plants not available in this country are invited to correspond with this Office which will endeavor to secure the required material through its agricultural explorers, foreign collaborators, or correspondents.

DAVID FAIRCHILD
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction.

Issued May 23, 1923. Washington, D. C.

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ACACIA spp. (Mimosaceae), 56183 and 56184. From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden.

56183. ACACIA FASCICULIFERA. A tall acacia from southwest Queensland, where it sometimes reaches a height of 70 feet. The phyllodia or "leaflike stems" are leathery, very narrow, with callous tips, and from 4 to 6 inches long. The flower heads, each containing 20 to 30 flowers, are borne in small axillary clusters. The very hard red wood is close grained and is considered a useful building wood. (Adapted from Bailey, Queensland Flora, pt. 2, p. 487.)

56184. ACACIA JUNCIFOLIA. A large slender-branched shrub with rushlike phyllodia 6 inches long or more and tipped with erect or curved points. The small fuzzy globular flower heads are borne singly or in pairs. The shrub is native to Queensland. (Adapted from Bailey, Queensland Flora, pt. 2, p. 483.)

ACER spp. (Aceraceae), 56453 to 56456. **Maple.** From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Gardens.

56453. ACER CAUDATUM. A large tree with dark-gray bark and 5-lobed red-stemmed leaves 2½ to 5 inches long. The shiny, compact, moderately hard wood is white with a faint pink tinge. This maple is found in the temperate Himalayas at altitudes of 7,000 , to 11,000 feet. (Adapted from Gamble, Manual of Indian Timbers, p. 201, and from Hooker, Flora of British India, vol. 1, p. 695.)

56454. ACER HOOKERI. A tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves are not lobed, and, though usually green, are sometimes copper colored. The wood is gray with small pores and very numerous, fine, red, medullary rays. (Adapted from Gamble, Manual of Indian Timbers, p. 200, and from Hooker, Flora of British India, vol. 1, p. 694.)

56455. ACER PECTINATUM. A small maple closely related to *A. caudatum*, from which it differs chiefly in foliage characters. It is common in the Sikkim Himalayas at altitudes of 8,000 to 12,000 feet. (Adapted from Gamble, Manual of Indian Timbers, p. 199.)

56456. ACER SIKKIMENSE. A small tree with thin, gray bark, native to the eastern temperate Himalayas at altitudes of 7,000 to 9,000 feet. The ovate leaves are undivided and up to 6 inches in length. The wood is a shining gray with distinct annual rings, with numerous, fine, medullary rays. (Adapted from Gamble, Manual of Indian Timbers, p. 200, and from Hooker, Flora of British India, vol. 1, p. 694.)

AESCULUS WILSONII (Aesculaceae), 56390. **Horse-chestnut.** From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. "(No. 22c. Peking.) Obtained from J. Hers, secretary-general, Lunghai Railway." (Reed.)

A horse-chestnut, native to Szechwan and Hupeh, China, which is very closely allied to *A. chinensis,* from which it differs only in a few minor characters. It is a large tree with leaves that are downy when young and white flowers borne in racemes which sometimes become 16 inches in length. The burs are rough but not spiny. (Adapted from Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 168.)

AMYGDALUS COMMUNIS (Amygdalaceae), 56178. **Almond.** From Serai, Bagdad, Mesopotamia. Seeds presented by G. S. Cameron, Officiating Director of Agriculture, Serai. "Sweet almonds with a hard, thick shell; native to Mesopotamia." (Cameron.)

ASPARAGUS AFRICANUS (Convallariaceae), 56483. From Loanda, Angola, Africa. Seeds presented by John Gossweiler. "This asparagus is a great delicacy, and in my opinion better than any of the cultivated kinds." (Sir Percy Fitzpatrick, in note under S.P.I. 32271.)

A much-branched tall shrub, native to many places in tropical and South Africa. The main branches are woody and the leaves are spiny at the base. The 1-seeded berries are a sixth of an inch in diameter. (Adapted from Thiselton-Dyer, Flora of Tropical Africa, vol. 7, p. 433.)

BRACHYCHITON DISCOLOR (Sterculiaceae), 56185. From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden, Brisbane. A large tree, native to southern Australia, with roundish heart-shaped leaves, 4 to 6 inches in diameter, with white-velvety lower surfaces. The rose-red flowers, up to 2 inches long, are borne in few-flowered clusters in the upper axils. The wood is soft, light colored, and of rather coarse grain; when dried, however, it hardens, and makes good shingles. (Adapted from Maiden, Useful Native Plants of Australia, p. 600, and from Bailey, Queensland Flora, pt. 1, p. 138.)

CASSIA BREWSTERI TOMENTELLA (Caesalpiniaceae), 56186. From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden. An erect, slender tree 20 to 30 feet high, found in thickets about Obum Obum, Queensland, where it is known as "bean tree." The branches, under surface of the leaflets, and small yellow flowers are covered with fine white hairs. The cylindrical pods, 1 to 2 feet long, are bright reddish brown. (Adapted from Bailey, Queensland Flora, pt. 2, p. 456.)

CASTANEA MOLLISSIMA (Fagaceae), 56393. **Chestnut.** From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. "(No. 18c. Anshan, Chihli. October, 1922.) Nuts obtained on the streets of Anshan, a railroad station between Lanchow and Changli; perhaps originally from north of Lanchow. There are many orchards containing a hundred trees or more

about a day's travel north of Lanchow." (Reed.)

CASTANOPSIS sp. (Fagaceae), 56472. **Chestnut.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6729. Mengka. October 12, 1922.) Seeds of a tree 50 to 60 feet high, which grows in the mountains at an altitude of 6,500 feet. The glossy, glabrous leaves are ovate-acuminate and toothed near the apices, and the burs, an inch to an inch and a half in diameter, inclose two or three brown hairy nuts in each bur. The bur is quite similar to that of *Castanopsis armata.*" (Rock.)

CHAETOCHLOA ITALICA (Poaceae), 56399. **Millet.** From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. "(No. 60c. Peking, Chihli.) Millet forms one of the most important cereal foods of the natives of northern China. I consider it delightful as a breakfast food, although among the Chinese it is classed with sweet potatoes as 'coolie food.' There are many varieties, ranging in height up to 3 or 4, or even 6 feet, and there are said to be two distinct groups, the ordinary kind and the glutinous kind." (Reed.)

CYRTANTHUS CONTRACTUS (Amaryllidaceae), 56198. From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, chief, Division of Botany, Department of Agriculture, Pretoria. A handsome member of the amaryllis family from the Transvaal, where its conspicuous beauty as it flowers on the burnt-over fields has earned it the name of "Fire-lily." The narrow, bluish green leaves are over a foot in length, and the Vandyke-red peduncle, 7 inches or over long, bears a pendulous cluster of faintly scented, scarlet or carmine flowers with strawberry-red pedicels. (Adapted from Flowering Plants of South Africa, vol. 1, pl. 4.)

ERYTHRINA spp. (Fabaceae), 56187 and 56188. From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden.

56187. ERYTHRINA TOMENTOSA. A small tree 10 to 15 feet high, with thick, rough, prickly bark; native to South Africa. The trifoliolate long-stemmed leaves, 10 to 14 inches long and wide, are densely hairy on both surfaces, and the bright crimson flowers are borne in many-flowered spikelike clusters. The woody pods, velvety on the surface, are alternately swollen and contracted, which gives them a bizarre appearance. (Adapted from J. Medley Wood, Natal Plants, vol. 4, pls. 384 and 385.)

56188. ERYTHRINA VESPERTILIO. **Coral tree.** Usually a small tree, with prickly branches, broadly 3-lobed leaves, and numerous erect, showy racemes of red flowers. The soft, straw-colored wood is very light and spongy, and is used by the natives for making shields. The roots are

eaten raw. (Adapted from Maiden, Useful Native Plants of Australia, p. 426, and from Bailey, Queensland Flora, pt. 2, p. 426.)

EUCALYPTUS RARIFLORA (Myrtaceae), 56189. From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden. A tall eucalypt from Queensland, where it appears to be rather rare. The slender branchlets are of a pleasing red, and the very variable leaves are almost circular on young branches, becoming very narrow on the older wood. The slender panicles contain usually a few scattered flowers. (Adapted from Queensland Agricultural Journal, new series, vol. 1, p. 62.)

EUCALYPTUS STAIGERIANA (Myrtaceae), 56147. **Lemon-scented ironbark.** From Brisbane, Queensland. Seeds presented by C. T. White, Government botanist. "This is a valuable oil-yielding species which so far has not been exploited because the trees grow in rather isolated places in North Queensland." (White.)

A tree of medium size with oval or narrow blue-green leaves covered with numerous oil dots. The foliage of this tree yields a large quantity of oil, equal in fragrance to that of lemons, and for which it is an agreeable substitute. The proportion of oil obtained from dry leaves is 2⅜ per cent; the specific gravity of the oil is 0.901. (Adapted from Bailey, Synopsis of the Queensland Flora, p. 176.)

FESTUCA OVINA NOVO-ZELANDIAE (Poaceae), 56388. **Fescue-tussock grass.** From Stanley, Falkland Islands. Seeds presented by the Colonial Secretary. (This grass does well in the cool and equable climate of the Falkland Islands, where it gets but little sunshine, and it is introduced for testing as forage in regions of similar climatic conditions.) A densely tufted perennial grass with culms 12 to 20 inches high and with erect, very narrow, cylindric, sharply pointed, rough leaves almost as long as the culms. This grass is native to North Island, New Zealand. (Adapted from Cheeseman, Manual of the New Zealand Flora, p. 917.)

HYDNOCARPUS ALPINA (Flacourtiaceae), 56445. From Loiret, France. Seeds presented by Edmond Versin. (This is a close relative of *Taraktogenos kurzii,* the source of the genuine chaulmoogra oil, and it is introduced for testing as a possible source of the same oil.) A large tree, 70 to 100 feet in height, with very variable leaves (red when young and deep green when old), up to 7 inches long and 2½ inches wide, and dioecious flowers in axillary racemes. The fruit is globose, about the size of an apple, with a brown, hairy surface. The seeds yield an oil which is used as fuel, and the wood is employed for general carpentry. The tree is native to the Nilghiri Hills in southern India. (Adapted

DWARF MUME TREES AS GROWN IN JAPAN.

(*Prunus mume* Sieb. and Zucc.)

The mume, or Japanese apricot, normally a tree 15 to 20 feet high, is sometimes trained by Japanese horticulturists in the dwarf form shown above. The flowering cherry is the favorite flower of the Japanese people, whereas the flowering mume is the favorite of the Japanese poets and artists because of its more picturesque branching habit and its fragrance. It has been confused by many with the flowering plum, but it is really allied to the apricot. In the latitude of Washington, D. C., 15 varieties of mume have been planted, and 10 of them have survived the severe winters of the past 15 years. The trunk seems peculiarly resistant to the attacks of the peach borer and to crown-gall; while the fruits, which are among the sourest known, yield when pickled one of the staple relishes of the Japanese menu. (Photographed by K. Tamari, Kagoshima, Japan.)

THE MUME, OR JAPANESE APRICOT.

(*Prunus mume* Sieb. and Zucc.)

Before the first flowers of Forsythia have commenced to expand, even before the crocus dares to show its head, *Prunus mume* bursts into full bloom and fills the garden with the fragrance of springtime. Some varieties are almost as showy as the double-flowered Japanese cherries; furthermore, they not only bloom 2 weeks to 20 days earlier than the latter but have the distinct advantage of being deliciously fragrant. (Photographed by E. L. Crandall, March 10, 1921; P26882FS.)

from Watt, Dictionary of the Economic Products of India, vol. 4, p. 308, and from Hooker, Flora of British India, vol. 1, p. 197.)

JUGLANS spp.(Juglandaceae),56407,56410 to 56412,56415,and 56422. **Walnut.** From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. Quoted notes by Mr. Reed.

56407. JUGLANS MANDSHURICA. **Manchurian walnut.** "(No. 45ac. Nanking, Kiangsu.) Nuts taken from a tree near the residence of the President of the University of Nanking. The nuts of this species are known here as 'butternuts,' as they are also throughout Chosen and Manchuria."

56410. JUGLANS REGIA. **Walnut.** "(No. 2c. Pienshih, Shansi.) Nuts obtained from a farmer living near Pienshih, a half day's travel west of Fenchow. This is an arid,mountainous region with loess soil, subject to severe winters with little precipitation. The temperature falls gradually in the autumn, however, and rises gradually in the spring, which may account for the successful raising of walnuts here and in other parts of northern China."

56411. JUGLANS REGIA. **Walnut.** "(No. 6c. Yihsien, Shantung. October 15, 1922.) Nuts from a young seedling tree in the garden of K. M. Gordon. These nuts ripened on the tree, and are of good quality. Usually the walnut crop of China is clubbed from the trees 2 to 5 weeks before ripening and the nuts covered with straw and left to sweat and wilt for a period of 5 to 8 days. The hulls are then removed, the nuts superficially cured and then placed on the market."

56412. JUGLANS REGIA. **Walnut.** "(No. 7c. Tsinghua, Honan.) Nuts selected in the market by J. L. Buck, of the University of Nanking, as being typical for this locality."

56415. JUGLANS REGIA. **Walnut.** "(No. 11c. Tsingchow, Shantung.) Nuts with very hard shells, purchased in the market, and said to have come originally from western China."

56422. JUGLANS REGIA. **Walnut.** "(Nos. 52c and 55c. Hsinchuang, Chihli.) Large, rough, thick-shelled nuts from wild trees."

LIGUSTRUM sp. (Oleaceae), 56473. **Privet.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 7670. November 30, 1922.) Seeds of a small tree 20 feet high,found in dense forest on the Salwin ridge at an altitude of 8,000 feet. This is evidently a very ornamental tree, judging by the large panicles which bear numerous bluish black fruits." (Rock.)

LILIUM sp. (Liliaceae) 56149. **Lily.** "(No. 6732. Kachin Hills, northern Burma. November 13, 1922.) A tall lily, 10 feet high, with a stem 2 inches in diameter, collected along a brook in a rhododendron thicket on the Mengka-Sadon trail, on the Changtifang mountains at an altitude of 9,400 feet. The leaves are broadly triangular, and although the plant was seen only in the fruiting stage, it is probable

that the flowers are large. In the region where this species grows it is now extremely cold, ice forming on the brooks at about 4 p.m." (Rock.)

MALUS spp. (Malaceae), 56150, 56459, 56460, 56474. **Apple.** From Burma and China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56150. MALUS sp. "(No. 6725. Hpun Kaw, Burma. November 11, 1922.) A tree 60 to 70 feet tall, with a trunk 3½ feet in diameter, found in sandy soil in dense forests on the ridge above the Kachin village of Hpun Kaw. The branches are apt to have long, spinelike branchlets near the trunk, but these do not occur on the older branches. The fruits, about 2 inches in diameter, are somewhat oval, with firm, aromatic flesh."

56459. MALUS sp. "(No. 6724. November 9, 1922.) A wild apple tree 30 feet high, with wide-spreading branches, found in sandy soil along watercourses between Tsinchi and Chansi on the Tengyueh-Sadon trail, at an altitude of 6,500 feet. The very numerous dark-carmine long-stemmed fruits are the size of small cherries."

56460. MALUS sp. "(No. 6734. November 12, 1922.) A wild apple tree 25 feet high, with long whiplike ascending branches, found in sandy loam on the hills back of Mengka at an altitude of 5,700 feet. The dark-carmine fruits are half an inch in diameter."

56474. MALUS sp. "(Puerhfu. December, 1922.) Seeds of a wild apple tree which grows in the hills at an altitude of 6,000 feet. The small, globose fruits are yellowish with a tinge of pink on the sun-exposed side. Obtained through Miss Clara Petersen, a missionary of Puerhfu."

MUSA GILLETII (Musaceae), 56485. **Banana.** From Loanda, Angola, Africa. Seeds presented by John Gossweiler. A close relative of the Abyssinian banana (*Musa ensete*), native to the vicinity of Kisantu, Belgian Congo. It is a plant up to 6½ feet high, with the lower leaves reaching a length of 5 feet and the upper leaves becoming smaller and smaller until they merge into the floral bracts. The fruits, 2 inches long, are oblong and somewhat pear shaped, with a grayish surface irregularly marked because of the prominence of the seeds. The powdery pulp incloses the shiny black seeds. (Adapted from Revue des Cultures Coloniales, vol. 8, p. 102.)

NAGEIA spp. (Taxaceae), 56196 and 56197. From Hogsback, via Lovedale, Cape Province, South Africa. Seeds presented by David A. Hunter. "These trees grow slowly, but finally become very large. The timber is fine grained, and is largely used in our shops for furniture."(Hunter.)

56196. NAGEIA ELONGATA. This is known as the "common yellow-wood," and is the largest, most plentiful, and one of the most useful trees

of Cape Colony. The narrow, evergreen leaves are quite short, being little more than an inch long. The tree becomes 80 to 120 feet high with a trunk usually 3 to 4 feet in diameter, occasionally 10 feet. The wood is light, soft, moderately strong and elastic, and of a pale yellow-brown. When exposed to the weather the wood is quite durable. (Adapted from Sim, Forest Flora of Cape Colony, p. 335.)

56197. NAGEIA THUNBERGII. A fine evergreen timber tree, up to 100 feet tall, and with a trunk 4 feet in diameter, which occurs throughout all the timber forests from the Cape of Good Hope to Natal. The quality of the wood of this species is very similar to that of *N. elongata*, and for most purposes they are used indiscriminately. (Adapted from Sim, Forest Flora of Cape Colony, p. 332.)

ORYZA SATIVA (Poaceae), 56266 to 56271. **Rice.** From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Quoted notes by Sr. Hernandez. "These are scented varieties raised by the Bureau at its Alabang Rice Station, Alabang, Rizal. They are white, nonglutinous and nonbearded."

56266. "(No. 13.) 'Macan pina.' This has been tested for 13 years under lowland conditions; matures usually in 139 days. Average yield 2,539 kilograms per hectare (approximately 2260 pounds per acre)."

56267. "(No. 15.) 'Mangasa 111.' This has been tested for 13 years under lowland conditions; matures usually in 137 days. Average yield 1,245 kilograms per hectare (approximately 1110 pounds per acre)."

56268. "(No. 27.) 'Antique.' This has been tested 7 years under lowland conditions; matures usually in 149 days. Average yield 2,889 kilograms per hectare (approximately 2,500 pounds per acre)."

56269. "(No. 31.) 'Bong Dua.' This has been tested 3 years under lowland conditions; matures usually in 164 days. Average yield 1,660 kilograms per hectare (approximately 1,479 pounds per acre)."

56270. "(No. 163.) 'Sipot.' This has been tested 14 years under lowland conditions; matures usually in 137 days. Average yield 2,486 kilograms per hectare (approximately 2,200 pounds per acre)."

56271. "(No. 164.) 'Guinalong.' This has been tested 12 years under lowland conditions; matures usually in 137 days. Average yield 2,300 kilograms per hectare (approximately 2,080 pounds per acre)."

PAPPEA CAPENSIS (Sapindaceae), 56148. From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. A shrub or small tree which occurs abundantly in the vicinity of the Fish River, Cape Colony, South Africa. The wood is white, close grained, and hard, and is used for farm implements and furniture. The hard, leathery fruit, about half an inch in diameter, usually contains one reddish brown seed with a brittle shell; within is a soft kernel which is yellow and very oily. The kernel constitutes about 65

per cent of the entire seed. The latter contains 48.8 per cent of oil, which is golden yellow and fairly viscous. The oil is of the "nondrying" type, and probably could be used either for soap manufacture or as a lubricant. The residual meal left after extracting the oil has a fairly good nutritive value, but also has a small quantity of a saponin, and feeding trials would be necessary to determine whether the meal could be used for cattle feed. (Adapted from Bulletin of the Imperial Institute, London, vol. 17, p. 488.)

PHOTINIA sp. (Malaceae), 56276. From China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 7002. November, 1922.) A rosaceous tree 30 to 40 feet tall, with a dense crown, collected in the Kuyung mountains at an altitude of 6,000 feet. The narrow, pale-green leaves are toothed, and the flowers, said to be white, are borne in large panicles about 5 inches across. The fruits are deep orange-red." (Rock.)

PYRUS spp. (Malaceae), 56151, 56277, 56278, and 56280. **Pear.** From China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56151. PYRUS sp. "(No. 6730. Mengka, Yunnan. November 12, 1922.) A tree 30 feet high, with long, spreading branches, found wild in sandy loam on a small plain at an altitude of 5,400 feet. The large, oblong leaves are acute at both ends, and the very numerous spherical-compressed, russet-brown fruits are an inch in diameter. Where this species grows it is very cold; ice forms now every day in the late afternoon."

56277. PYRUS sp. "(November, 1922.) A wild pear found in the mountains near Puerhfu at an altitude of 6,000 feet. The large, mellow, edible fruits are 3 to 4 inches in diameter."

56278. PYRUS sp. "(No. 6735. November 20, 1922.) A large hardy tree, 60 to 70 feet tall, which grows in the mountains beyond Taho, north of Tengyueh, at an altitude of 7,000 feet. The leaves are large, oblong, and acuminate, and the numerous reddish brown, somewhat acrid fruits are 2½ inches in diameter."

56280. PYRUS sp. "(No. 7001. November, 1922.) A large tree 60 feet tall, with a huge ascending crown, found in sandy soil in an oak forest in the Kuyung mountains, north of Tengyueh, at an altitude of 7,000 feet. The leaves are large and oblong-lanceolate, with a reddish tinge. The numerous globose, greenish brown fruits are 2½ inches in diameter."

RAPHANUS SATIVUS (Brassicaceae), 56192. **Radish.** From Algiers, Algeria, North Africa. Seeds presented by Dr. L. Trabut, Government botanist, Algiers. "Variety *campestris*. An improved giant radish, with

large roots, used as cattle feed. The seeds are sown at the beginning of the rainy season, from August to October." (Trabut.)

ROSA spp. (Rosaceae), 56281 and 56477. **Rose.** From China. Collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56281. ROSA sp. "(No. 6738. November, 1922.) Seeds of a large climbing rose growing wild on the slopes of Tengyueh, at an altitude of 6,000 feet. The white flowers are in large terminal corymbs, and the fruits are oval and reddish."

56477. ROSA sp. "(Yunnan. December 3, 1922.) Cuttings of a wild rose found in the valley of the Upper Salwin. It is very attractive, with thousands of large white flowers, each 3 inches across, and could easily be trained on arbors. Strange to say, the flowers are double; perhaps it is a sport."

RUBUS FRAXINIFOLIUS (Rosaceae), 56273. **Raspberry.** From Los Banos, Philippine Islands. Seeds presented by Prof. J. E. Higgins, College of Agriculture. A scrambling shrub, with branches 2 to 4 meters (6½ to 13 feet) long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 cm. (nearly an inch) across. The bright red berries, 10 to 15 mm. (about half an inch) in diameter, borne in clusters, are fairly juicy and edible, but rather tasteless. (Adapted from Brown, Wild Food Plants of the Philippines, p. 63.)

TRIFOLIUM JOHNSTONI (Fabaceae), 56458. **Clover.** From Kilossa, Tanganyika Territory, East Africa. Seeds presented by Capt. Charles M. F. Swynnerton, Kilossa, through Dr. H. L. Shantz, Bureau of Plant Industry. "At high altitudes in East Africa clover is one of the prominent forage plants. It grows where the temperature probably never exceeds 85° F. and where for the greater part of the year it is much below this point. However, no frosts occur in this region." (Shantz.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*) found at an altitude of 10,000 feet on Kilimanjaro, Tanganyika Territory. The leaves are long stemmed, with membranous leaflets and globose flower heads about an inch in diameter. (Adapted from Transactions of the Linnean Society, 2d ser., vol. 2, p. 331.)

Notes on the Behavior of Previous Introductions.

CHAYOTA EDULIS (Cucurbitaceae). **Chayote.** "I gathered about 300 chayotes weighing around a pound each from my one vine, and blooms enough for a thousand, apparently, went unfertilized. I exhibited 2 bushels of chayotes at our little county fair where they attracted

much attention. About 20 families in this town were furnished with them several times and most of them liked the new vegetable very much. I have no cold storage facilities available here, but think that I will be able to give several people three chayotes each this spring. The chayote matures here at a time when gardens are rather bare. I consider it a great addition to our list of vegetables and expect to get it widely known hereabouts. If an eastern market in the Spanish colonies of New York, Philadelphia, etc., should develop, I would be inclined to grow it on a commercial scale." (Geo. D. Lowe, Baxley, Ga., March 8, 1923.)

DIOSCOREA ALATA (Dioscoreaceae). **Yam.** "I wish to make a report to you in regard to the West Indian yams received last April. I think I can say that the tropical yam is a success here in St. Tammany parish and I am pleased with results. Four varieties were sent me for testing, three with dull white skin and one with pink skin. Two of these varieties bore aerial tubers. The underground tubers were somewhat rough and irregular in shape and came out all in one root without any separable tubers. They would weigh 10 and 15 pounds each, and any one of them would nearly fill an ordinary water bucket. They keep well. For eating the yams are very good, reminding one of the Irish potato, and I liked them either fried or boiled." (W. H. Garrison, Slidell, La., April 1, 1923.)

MALUS SYLVESTRIS (Malaceae), 39829. **Apple.** "Limoncella." From Rome, Italy. "The 'Limoncella' apple received 3 years ago is a wonder and I think it is the variety best adapted to this part of the country. Each year it has borne fruits of firm texture and fine quality." (C. P. Barrows, San Diego, Calif., March 16, 1923.)

PRUNUS PSEUDO-CERASUS (Amygdalaceae), 18587. **Tangsi cherry.** From Tangsi, Chekiang, China. "I was in Loomis, Calif., last Tuesday (March 27) and saw a tree of this variety loaded with an enormous crop. The cherries were about two-thirds grown and should be ripe in a few days. Last year this tree furnished the earliest cherries in the State, and Howard Smith, the owner of the tree, sent a box of them to the Red Cross in Chicago, where it was auctioned off for fifty dollars. You are probably aware that this is a red cherry of small size but delicious flavor." (G. P. Rixford, San Francisco, Calif., March 31, 1923.)

"Several weeks earlier than usual the first shipment of cherries was made last Tuesday (March 27) from Vacaville, Calif. These were of the Chinese variety and the box was sent from the Hill ranch by C. M. Chubb to Chicago, where it will be auctioned off to the highest bidder. Sometimes as much as $150.00 is received for this early box of cherries, which is always the first to be sent to market from any part of the United States." (San Francisco Chronicle, March 31, 1923.)

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BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

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